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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,499	02/27/2002	Raymond Andrew Saksa	PU010044	8703

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EXAMINER
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BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
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2646

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/085,499

Applicant(s)

SAKSA ET AL.

Examiner

Walter F. Briney III

Art Unit

2646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-25, 27-32 and 34-39 is/are rejected.
- 7) ☒ Claim(s) 26 and 33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/13/2005</u>   | 6) <input type="checkbox"/> Other: _____                                    |

By

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 21, 22, 25, 27-30, 34, 35, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumbach (US Patent 4,314,304) in view of Elder, Jr. (US Patent 5,392,349) and further in view of Chandran (US Patent 6,480,604).**

**Claim 21** is limited to a *telephony protection device*. Baumbach discloses a line protector for a communication circuit. See Abstract. Figure 1 depicts the schematic representation of the line protector. In particular, the line protector corresponds to a *first stage* including inputs (13) and (14) for connecting with an external telephone line, inherently consisting of a *tip and ring line*. See column 2, lines 56-60. The protector also includes gas tube surge arrester (i.e. a specialized *spark gap* where electrons are emitted in a gaseous medium enclosed within a tube), the arrester corresponding to a *singular spark gap*. In addition to the gas tube surge arrester are two electrodes (28) and (30) that provide protection in the event the gas tube surge arrester fails, the two electrodes corresponding to *dual secondary spark gaps connected in parallel with said singular spark gap*. See column 2, line 66 through column 3, line 19. The remainder of the specification of Baumbach is directed toward the physical construction of the protection device, therefore, Baumbach anticipates all limitations of the claim with the

exception of a *first input resistance and a second input resistance in series with said first first-stage input and said second first-stage input*, respectively; and wherein said *singular spark gap is provided across said first first-stage output and said second first-stage output*.

Elder teaches an overvoltage protection scheme for subscriber loops. See Abstract. In particular, Elder teaches an initial protection circuit (24) similar to that disclosed by Baumbach in that it is coupled across the tip and ring lines of a subscriber loop, providing protection between terminating equipment and the subscriber loop. It is noted that Elder includes current limiting resistors (25) (i.e. *resistances*) between the subscriber loop's tip and ring lines and the protection circuit. Elder indicates that these resistors (25) help dissipate excess energy when the protector (24) is clamping to limit dissipation of energy in the protectors, and also indicates that such resistors may be fuses in order to prevent damage to the protector circuit (24). See column 3, lines 18-25. It would have been obvious to one of ordinary skill in the art at the time of the invention to include current limiting resistors arranged in the configuration as taught by Elder for the purpose of reducing the probability of damaging the protection circuit of Baumbach.

Furthermore, it is clear that the combination of Baumbach and Elder do not disclose or teach a *second stage having a first filter and a second filter*. Chandran teaches a balanced spectrum limiter for telephone and communication systems. See Abstract. As seen in figures 1 and 2, Chandran teaches providing a spectrum limiter (12) at the output of a prior art protection circuit (2) that generally relates to the

combination of Baumbach and Elder in that the combination of Baumbach and Elder fails to disclose a spectrum limiter (12). Chandran teaches that the addition of the spectrum limiter (12) enables both protection from overvoltage and overcurrent conditions and reduction in noise, thus enabling one of ordinary skill in the art to utilize the telephone subscriber loop at frequencies higher than those originally intended. See column 1, line 55 through column 2, 17. In particular, figure 5 depicts a filter arrangement. Clearly, inductor (38) and capacitor (36) correspond to a *first filter*, and inductor (40) and capacitor (36) correspond to a *second filter*. One inherent advantage of high-frequency transmission over a telecommunication medium is the increase in available bandwidth. It would have been obvious to one of ordinary skill in the art at the time of the invention to couple a filter arrangement as taught by Chandran to the output of the protection circuit taught by the combination of Baumbach and Elder for the purpose of enabling one of ordinary skill in the art to transmit at frequencies beyond those originally intended for a subscriber loop, and thus enabling greater bandwidth over preexisting communication mediums.

**Claim 27** recites essentially the same subject matter as claim 21, as covered by Baumbach in view of Elder and further in view of Chandran, and is rejected for the same reasons.

**Claim 22** is limited to *the telephony protection device of claim 21*, as covered by Baumbach in view of Elder and further in view of Chandran. As stated in the rejection of claim 21, Elder teaches that the current limiting resistors (25) are *fuses*. See column 3,

lines 18-25. Therefore, Baumbach in view of Elder and further in view of Chandran makes obvious all limitations of the claim.

**Claims 28 and 35** recite essentially the same subject matter as claim 22, as covered by Baumbach in view of Elder and further in view of Chandran, and are rejected for the same reasons.

**Claim 25** is limited to *the telephony protection device of claim 21*, as covered by Baumbach in view of Elder and further in view of Chandran. Figure 1 of Baumbach clearly depicts that the *singular (20)* and *dual spark gaps (28) and (30)* are connected to *ground*. Therefore, Baumbach in view of Elder and further in view of Chandran makes obvious all limitations of the claim.

**Claims 30 and 38** recite essentially the same subject matter as claim 25, as covered by Baumbach in view of Elder and further in view of Chandran, and are rejected for the same reasons.

**Claim 29** is limited to the telephony protection device of claim 27, as covered by Baumbach in view of Elder and further in view of Chandran. Figure 1 of Baumbach clearly depicts that the *dual spark gap* consists of *a first (28) and a second (30) series spark gap*. Therefore, Baumbach in view of Elder and further in view of Chandran makes obvious all limitations of the claim.

**Claim 34** recites essentially the same subject matter as claim 29, as covered by Baumbach in view of Elder and further in view of Chandran, and is rejected for the same reasons.

**Claim 39** is limited to the telephony protection device of claim 34, as covered by Baumbach in view of Elder and further in view of Chandran. As seen in figure 5 of Chandran, two filters (13) and (34) are cascaded in series. Inductor (38) corresponds to a *tip line inductor*, capacitor (36) corresponds to a *tip line capacitor*, inductor (40) corresponds to a *ring line inductor*, and capacitor (26) corresponds to a *ring line capacitor*. Therefore, Baumbach in view of Elder and further in view of Chandran makes obvious all limitations of the claim.

2. **Claims 23, 24, 31, 32 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baumbach in view of Elder and Chandran and further in view of Hershfield (US Patent 4,677,518).**

**Claim 23** is limited to *the telephony protection device of claim 21*, as covered by Baumbach in view of Elder and further in view of Chandran. Chandran discloses two filters (figure 4, elements 38 and 40). The inductances provide a high-impedance to high-frequency inputs such as voltages due to lightning strikes on the conductors (4) and (8), but also provide a high-impedance to high-frequency data signals. Chandran also indicates that the filters are composed of a single core with two separate windings that correspond to the two separate inductances (38) and (40). Therefore, Baumbach in view of Elder and further in view of Chandran makes obvious all limitations of the claim with the exception *wherein said first stage further comprises a first ferrite bead in series with said first input resistance and a second ferrite bead in series with said second input resistance*.

Hershfield teaches a transient voltage suppression unit (abstract; figure 6). As seen in figure 6, a plurality of ferrite beads (114), (116), (130), and (132) are used as inductance devices in a filtering scheme for limiting transient voltage spikes that are caused by things such as lightning strikes (column 5, line 40 to column 6, line 6), the beads providing an advantage in that they do not saturate under high currents (column 6, lines 7-33). It would have been obvious to use ferrite beads instead of inductors in a transient reducing filter as taught by Hershfield because the ferrite beads do not saturate under high currents so that their inductance remains constant resulting in stable impedance to high-frequency transients, which is in accordance with the teachings of Chandran who is interested in reducing noise by providing low-pass filters for telephone equipment and requires a device with a stable impedance.

**Claims 31 and 36** recite essentially the same subject matter as claim 23, as covered by Baumbach in view of Elder and further in view of Chandran, and are rejected for the same reasons.

**Claim 24** is limited to *the telephony protection device of claim 21*, as covered by Baumbach in view of Elder and further in view of Chandran. It is clear that the combination of Baumbach, Elder, and Chandran discussed up to this point does not teach a *diode connected between said first first-stage output and said second first-stage output*.

As shown in the rejection of claim 23, it would have been obvious to use ferrite beads as part of or in addition to the filtering circuitry taught by Chandran as they do not saturate as normal inductors, which inherently preserves the impedance of the



protection/filter circuit. Preserving the impedance is beneficial as it does not adversely affect high-frequency circuitry sharing the subscriber line with the protector. Hershfield goes further to say that a plurality of diodes (128) depicted post-filter serve to reduce the amplitude of any remaining transients and reduce the dynamic impedance of the system. See column 6, lines 27-33. It would have been obvious to one of ordinary skill in the art at the time of the invention to include a plurality of avalanche diodes at the output of the filter of the second stage as taught by Hershfield for the purpose of reducing the amplitude of any remaining transients and reducing the dynamic impedance of the system as a whole.

**Claims 32 and 37** recite essentially the same subject matter as claim 24, as covered by Baumbach in view of Elder and Chandran and further in view of Hershfield, and are rejected for the same reasons.

### ***Allowable Subject Matter***

The following is a statement of reasons for the indication of allowable subject matter:

3. **Claims 26 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

**Claim 26** is limited to *the telephony protection device of claim 21*, as covered by Baumbach in view of Elder and further in view of Chandran. As seen in figures 4 and 5 of Chandran, the filter elements (13) and (34) are composed of two *inductors* and a *capacitor*. There is no indication that the *capacitor* is connected to *ground* as recited in

the claim. In fact, Chandran suggests that such an unbalanced filter is disadvantageous as it is more vulnerable to noise and transients than his suggested balanced circuit. See column 2, lines 7-17. Thus, claim 26 is allowable over Baumbach in view of Elder and further in view of Chandran.

**Claim 33** recites essentially the same subject matter as claim 26, and is allowable over Baumbach in view of Elder and further in view of Chandran for at least the same reasons.

### ***Response to Arguments***

Applicant's arguments filed 26 May 2005 have been fully considered but they are not persuasive.

**With respect to claim 21**, the applicant alleges on pages 9 and 10 of the current response that Baumbach does not disclose a singular spark gap as claimed; the examiner respectfully disagrees. In particular, the dictionary definition supplied by Merriam-Webster 10<sup>th</sup> Edition for a "spark gap" states, "a device having a spark gap." In other words, the three-terminal gas tube surge arrestor (20) of Baumbach, for the sake of argument, may contain more than one "spark gap," but is reasonably interpreted as a "spark gap." In addition, it is a "singular spark gap" in the sense that it is a single device, which contains a spark gap, across the tip and ring lines as seen in figure 1 of Baumbach. Therefore, it is submitted that all of the applicant's arguments have been shown to be either moot or unpersuasive and the rejection of claim 21 is maintained.

**With respect to claims 22-25, 27-32 and 34-39**, the applicant alleges on pages 10-16 of the current response that these claims are allowable over the cited prior art for at least the same reasons treated supra with respect to claim 21; the examiner respectfully disagrees. As all of the applicant's arguments with respect to claim 21 were shown to be either moot or unpersuasive, it follows that the rejections of these claims are likewise maintained.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**SINH TRAN**  
**SUPERVISORY PATENT EXAMINER**

WFB  
9/26/05